PTO/SB/08A (08-00)

Please type a plus sign (+) inside this box

Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are reliabled to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 5

Complete if Known				
Application Number	10/036,988			
Filing Date	December 31, 2001			
First Named Inventor	Roger L. Papke			
Group Art Unit	1633			
Examiner Name				
Attorney Docket Number	UF-293 DECENTED			

				U.S. PATENT DOCUMEN	TS	
Examiner Initials*	Cite No. ¹	U.S. Patent I Number	Document Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, िर्माक्ताई Lipes (अनुबंध Relevant Passages or Relevant Figures Appear
60	U1	5,212,188		Caldwell et al.	05-18-1993	TECH CENNER 1600/290
A	U2	5,597,919		Dull et al.	01-28-1997	Ali
الفا	U3	6,218,383	B1	Bencherif	04-17-2001	All
	U4					
	U5					
	U6					
	U7					
	U8					
	U9					
	U10					
	U11					
	U12					
	U13					
	U14					
	U15					
	U16					
	U17					

				FOREIGN	PATENT DOCMENT	rs		
Examiner Cite Initials* No.		Fore	eign Patent Docur	nent	Name of Patentee or	Date of Publication of	Pages, Columns, Lines,	
		Office ³	Number⁴	Kind Code ⁵ (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T ⁶
	F1							
	F2							
	F3							L
	F4							L
	F5							
	F6							
	F7							ijπĭ
	F8							
	F9							
	F10							

Examiner	19	<u> </u>		Dat	e I		
	$\Gamma / \Delta A$	1 - 1	The state of the s	1 200	·	3/10/10	
Signature	1 / - 2 / 0			I Cor		2//8/03	
			•			/ ` ` / _ / _ /	_

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to descend to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

Sheet

Please type a plus sign (+) inside this box ->

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

2

of

5

Complete if Known						
Application Number	10/036,988					
Filing Date December 31, 2001						
First Named Inventor	Roger L. Pap	ke			11	/[
Group Art Unit	1633	H	EU	工	Ţ	VE
Examiner Name						
Attorney Docket Number	UF-293		APR	0 :)	200

NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate) fille of the Author (in CAPITAL LETTERS).				
Examiner Initials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate) die offit the LIVILIV item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²	
(3)	R1	ADLER, L.E. et al. "Normalization by Nicotine of Deficient Auditory Sensory Gating in the Relatives of Schizophrenics" <i>Biol. Psychiatry</i> , 1992, 32:607-616.		
G	R2	ADLER, L.E. et al. "Normalization of Auditory Physiology by Cigarette Smoking in Schizophrenic Patients" Am. J. Psychiatry, 1993, 150:1856-1861.		
	R3	ADLER, L.E. et al. "Schizophrenia, Sensory Gating, and Nicotinic Receptors" Schizophr. Bull., 1998, 24(2):189-202.		
(3)	R4	ARNERIC, S.P. et al. "Neuronal Nicotinic Acetylcholine Receptors" Psychopharmacology: The Fourth Generation of Progress, 1995, pp. 95-110.		
0	R5	BENCHERIF, M. et al. "RJR-2403: A Nicotinic Agonist with CNS Selectivity I. In Vitro Characterization" J. Pharmacol. Exp. Ther., 1996, 279:1413-1421.		
4	R6	BENOWITZ, N.L. "Pharmacology of Nicotine: Addiction and Therapeutics" Annu. Rev. Pharmacol. Toxicol., 1996, 36:597-613.		
(3)	R7	COSFORD, N.D.P. et al. "(S)-(-)-5-Ethynyl-3-(1-methyl-2-pyrrolidinyl) pyridine Maleate (SIB-1508Y): A Novel Anti-Parkinsonian Agent with Selectivity for Neuronal Nicotinic Acetylcholine Receptors" J. Med. Chem., 1996, 39:3235-3237.		
Q	R8	COSFORD, N.D.P. et al. "Recombinant human receptors and functional assays in the discovery of altinicline (SIB-1508Y), a novel acetylcholine-gated ion channel (nAChR) agonist" <i>Pharm. Acta. Helv.</i> , 2000, 74:125-130.		
(1)	R9	DAMAJ, M.I. et al. "Antinociceptive and Pharmacological Effects of Metanicotine, a Selective Nicotinic Agonist" J. Pharmacol. Exp. Ther., 1999, 291(1):390-398.		
(5)	R10	DE FIEBRE, C.M. <i>et al.</i> "Characterization of a Series of Anabaseine-Derived Compounds Reveals that the 3-(4)-Dimethylaminocinnamylidine Derivative is a Selective Agonist at Neuronal Nicotinic α7/ ¹²⁵ I-α-Bungarotoxin Receptor Subtypes" <i>Mol. Pharmacol.</i> , 1995, 47:164-171.		
(4)	R11	DONNELLY-ROBERTS, D.L. et al. "ABT-594 [(R)-5-(2-Azetidinylmethoxy)-2-Chloropyridine]: A Novel, Orally Effective Analgesic Acting via Neuronal Nicotinic Acetylcholine Receptors: I. In Vitro Characterization" J. Pharmacol. Exp. Ther., 1998, 285:777-786.		
	R12	FLORES, C.M. <i>et al.</i> "A Subtype of Nicotinic Cholinergic Receptor in Rat Brain is Composed of α4 and β2 Subunits and is Up-regulated by Chronic Nicotine Treatment" <i>Mol. Pharmacol.,</i> 1992, 41:31-37.		
B	R13	FREEDMAN, R. et al. "Schizophrenia and Nicotinic Receptors" Harvard Rev. Psychiatry, 1994, 2(4):179-192.		

Examiner Signature Date Considered 3/18/03

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box ->

Sheet

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0551-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no per ond to a collection of information unless it contains a valid OMB control number. Substitute for form 1449B/PTO

Attorney Docket Number

5

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

3

Complete if Known				
Application Number	10/036,988			
Filing Date	December 31, 2901			
First Named Inventor	Roger L. Papke			
Group Art Unit	1633			
Examiner Name	APR 0.5.20			

UF-293

		NON PATENT LITERATURE DOCUMENTS	60
xaminer nitials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Τ²
Q	R14	FREEDMAN, R. et al. "The α7-nicotinic acetylcholine receptor and the pathology of hippocampal interneurons in schizophrenia" J. of Chemical Neuroanatomy, 2000, 20:299-306.	
	R15	GERZANICH, V. et al. "α5 Subunit Alters Desensitization, Pharmacology, Ca ⁺⁺ Permeability and Ca ⁺⁺ Modulation of Human Neuronal α3 Nicotinic Receptors" <i>J. Pharmacol. Exp. Ther.</i> , 1998, 286(1):311-320.	
6	R16	HALVORSEN, S.W. AND D.K. BERG "Subunit Composition of Nicotinic Acetylcholine Receptors from Chick Ciliary Ganglia" <i>J. Neurosci.</i> , June 1990, 10(6):1711-1718.	
	R17	HOLLADAY, M.W. et al. "Neuronal Nicotinic Acetylcholine Receptors as Targets for Drug Discovery" J. Med. Chem., December 19, 1997, 40(26):4169-4194.	
(2)	R18	LIPPIELLO, P.M. et al. "RJR-2403: A Nicotinic Agonist with CNS Selectivity II. In Vivo Characterization" J. Pharmacol. Exp. Ther., 1996, 279:1422-1429.	
(S)	R19	LLOYD, G.K. et al. "The Potential of Subtype-Selective Neuronal Nicotinic Acetylcholine Receptor Agonists as Therapeutic Agents" Life Sciences, 1998, 62(17/18):1601-1606.	
	R20	LLOYD, G.K. AND M. WILLIAMS "Neuronal Nicotinic Acetylcholine Receptors as Novel Drug Targets" J. Pharmacol., 2000, 292(2):461-467.	
(4)	R21	MEYER, E.M. et al. "3-[2,4-Dimethoxybenzylidene]anabaseine (DMXB) selectively activates rat α7 receptors and improves memory-related behaviors in a mecamylamine-sensitive manner" <i>Brain Res.</i> , 1997, 768:49-56.	
	R22	MIHAILESCU, S. AND R. DRUCKER-COLIN "Nicotine, Brain Nicotinic Receptors, and Neuropsychiatric Disorders" <i>Arch. Med. Res.</i> , 2000, 31:131-144.	
6	R23	MILLER, C. "Genetic Manipulation of Ion Channels: A New Approach to Structure and Mechanism" Neuron, 1988, 2:1195-1205.	
	R24	MULLE, C. et al. "Existence of Different Subtypes of Nicotinic Acetylcholine Receptors in the Rat Habenulo-interpeduncular System" J. Neurosci., August 1991, 11(8):2588-2597.	
A	R25	NEWHOUSE, P.A. et al. "Nicotinic System Involvement in Alzheimer's and Parkinson's Diseases" Drugs Aging, September 1997, 11(3):206-228.	
5	R26	NEWHOUSE, P.A. AND M. KELTON "Nicotinic systems in central nervous systems disease: degenerative disorders and beyond" <i>Pharm. Acta. Helv.</i> , 2000, 74:91-101.	

Examiner Signature	Brianh	Date Considered	3/1	8/0)	
					$\overline{}$

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required sepond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

Sheet

Please type a plus sign (+) inside this box->

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

4

of

5

Complete if Known

Application Number 10/036,988

Filing Date December 31,290

First Named Inventor Roger L. Paper L. Paper 1633

Examiner Name APR 0 5 2002

Attorney Docket Number UF-293

		NON PATENT LITERATURE DOCUMENTS TECH CENTER 16	00/2
Examiner Initials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
(5)	R27	PAPKE, R.L. "The Kinetic Properties of Neuronal Nicotinic Receptors: Genetic Basis of Functional Diversity" <i>Prog. Neurobiol.</i> , 1993, 41:509-531.	
(b)	R28	PAPKE, R.L. "Activation and inhibition of rat neuronal nicotinic receptors by ABT-418" <i>Br. J. Pharmacol.</i> , 1997, 120:429-438.	
(n)	R29	PAPKE, R.L. et al. "The Activation and Inhibition of Human Nicotinic Acetylcholine Receptor by RJR-2403 Indicate a Selectivity for the α4β2 Receptor Subtype" <i>J. Neurochem.</i> , 2000, 75:204-216.	
(2)	R30	PAPKE, R.L. et al. "α7 Receptor-selective agonists and modes of α7 receptor activation" Eur. J. Pharmacol., 2000, 393:179-195.	
A	R31	PAPKE, R.L. et al. "Inhibition of Wild-Type and Mutant Neuonal Nicotinic Acetylcholine Receptors by Local Anesthetics" <i>Mol. Pharm.</i> , 2001, 60:1365-1374.	
6	R32	RUSTED, J.M. AND P.A. NEWHOUSE "Nicotinic treatment for degenerative neuropsychiatric disorders such as Alzheimer's disease and Parkinson's disease" <i>Behav. Brain Res.</i> , 2000 113:121-129.	
6	R33	SANBERG, P.R. et al. "Treatment of Tourette's syndrome with mecamylamine" Lancet, August 29, 1998, 352:705-706.	
6)	R34	SILVER, A.A. et al. "Case Study: Long-Term Potentiation of Neuroleptics with Transdermal Nicotine in Tourette's Syndrome" J. Am. Acad. Child Adolesc. Psychiatry, December 1996, 35:1631-1636.	
	R35	SULLIVAN, J.P. et al. "ABT-089 [2-Methyl-3-(2-(S)-pyrrolidinylmethoxy)pyridine]: I. A Potent and Selective Cholinergic Channel Modulator with Neuroprotective Properties" J. Pharmacol. Exp. Ther., 1997, 283(1):235-246.	
6	R36	VERNIER, J. et al. "4-[[2-(1-Methyl-2-pyrrolidinyl)ethyl]thio]-phenol Hydrochloride (SIB-1553A): A Novel Cognitive Enhancer with Selectivity for Neuronal Nicotinic Acetylcholine Receptors" J. Med. Chem., 1999, 42:1684-1686.	
6	R37	VIDAL, C. "Nicotinic Receptors in the Brain" Mol. Chem. Neuropathol., 1996, 28:3-11.	
- (A)	R38	WANG, F. <i>et al.</i> "Assembly of Human Neuronal Nicotinic Receptor α5 Subunits with α3, β2, and β4 Subunits" <i>J. Biol. Chem.</i> , July 1996, 271(30):17656-17665.	
\(\frac{1}{2}\)	R39	WEBSTER, J.C. et al. "Antagonist activities of mecamylamine and nicotine show reciprocal dependence on beta subunit sequence in the second transmembrane domain" <i>Br. J. of Pharmacol.,</i> 1999, 127:1337-1348.	

Examiner Signature	B	2	Da Co	neidered	118/2

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
and to a collection of information unless it contains a valid OMB control number. Under the Paperwork Reduction Act of 1995, no per

Substitute for form 1449B/PTO

Sheet

Examiner

Signature

Please type a plus sign (+) inside this box->

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

5

5

Complete if Known					
Application Number	10/036,988				
Filing Date	December 31, 2001				
First Named Inventor	Roger L. Parke CEVE				
Gr up Art Unit	1633				
Examiner Name	APR 0 5 2002				
Attorney Docket Number	UF-293				

		NON PATENT LITERATURE DOCUMENTS TECH CENTER 16	00/2 P
Examiner Initials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Ţ²
(2)	R40	WHITING, P.J. AND J.M. LINDSTROM "Purification and Characterization of a Nicotinic Acetylcholine Receptor from Chick Brain" <i>Biochemistry</i> , 1986, 25:2082-2093.	
(5)	R41	WILLIAMS, M. et al. "Neuronal Nicotinic Acetylcholine Receptors" Drug News Perspect., May 1994, 7(4):205-223.	
(4)	R42	YOUNG, J.M. et al. "Mecomylamine: New Therapeutic Uses and Toxicity/Risk Profile" Clin. Ther., 2001, 23(4):532-565.	
	R43		
	R44		
	R45		
	R46		
	R47		
	R48		
	R49		
	_ R50		
	R51		
	R52		

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Date

Considered

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEÉS OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

plus sign (+) inside this box -> +

Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

JUL 2 1,2003

ENTRA DE COMP

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1

Complete if Known				
Application Number	10/036,988			
Filing Date	December 31, 2001			
First Named Inventor	Roger L. Papke			
Group Art Unit	1614			
Examiner Name	Brian Yong S. Kwon			
Attorney Docket Number	UF-293			

				U.S. PATENT DOCUMEN	TS	
Examiner Initials*	Cite No. 1		nent nd Code ² if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
6/	U1	6,277,855	B1	Yerxa	08-21-2001	All
G	U2	5,977,144		Meyer et al.	11-02-1999	All
	U3	5,885,998		Bencherif et al.	03-23-1999	All ·
\sim	U4	5,726,316		Crooks et al.	03-10-1998	All
7	U5					Q ₄
	U6					'SO_
	U7					S/I/a
	U8				>	
	U9				150	
	U10				0,	CFA/2 <003
	U11					IVER .
	U12					1600/02
ä	U13					9/<90n
	U14					
	U15		•			
	U16					
	U17					

	FOREIGN PATENT DOCMENTS							
Examiner Initials*	Cite No. 1	Foreign Patent Document			Name of Patentee or	Date of Publication of	Pages, Columns, Lines,	
		Office 3	Number⁴	Kind Code ⁵ (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T ⁶
	F1							
	F2							
	F3							
	F4							
	F5						·	
	F6							
	F7							
	F8							
	F9							
	F10						,	

Examiner		Date	04.4
Signature	B	· Considered	01/1/03

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.